

Claims

1. A core material, suitable for use in a closed mould system, spray up application and/or hand lay up application, said core material being drapable, which core material is based on at least one fibrous web containing a foam-structure within the web, said foam-structure being formed of a plurality of
5 members, which members are separated from each other by channels that are permeable to resin, wherein the members have an average diameter - as defined by the diameter of the enveloping circle, in the plane of the material - of less than 1.5 mm and wherein the channels have an average diameter of less than 0.75 mm.
- 10 2. A core material suitable for use in a closed mould system, spray up application and/or hand lay up application, said core material being drapable, which core material is based on at least one fibrous web containing a foam-structure within the web, said foam-structure being formed of a plurality of members, which members are irregularly distributed within or upon the web,
15 which members are separated from each other by channels, which channels are permeable to resin.
3. A core material according to claim 2, wherein at least the majority of the members have a diameter, as determined by the enveloping circle surrounding the member, in the plane of the material of less than 3 mm,
20 preferably of less than 2.5 mm.
4. A core material according to claim 2 or 3, wherein at least the majority of the channels have an average diameter of less than 1 mm.
5. A core material according to any of the preceding claims, wherein the channels have an average diameter of 0.3-0.5 mm.
- 25 6. A core material according to any of the preceding claims, wherein the members have an average diameter of 0.2-1 mm.

7. A core material according to any of the preceding claims, wherein the permeability in the plane of the material for resin is at least $1 \times 10^{-9} \text{ m}^2$.
8. A core material according to any of the preceding claims, wherein the members are randomly distributed within or upon the web.
- 5 9. A core material according to any of the preceding claims, wherein the core material contains a plurality of differently shaped members.
10. A core material according to any of the preceding claims, wherein the free volume of the web is 40-80 % by volume, preferably 60 to 70 % by volume.
- 10 11. A core material according to any of the preceding claims, wherein the cross-sections parallel to the plane of the material of at least the majority of the members are selected from the group consisting of circular, ellipsoidal and polygonal cross-sections.
12. A core material according to any of the preceding claims wherein at
15 least part of the members contain micro-spheres.
13. A core material according to any of the preceding claims, wherein the fibres of the web are selected from the group consisting natural fibres, glass fibres, metal fibres, ceramic fibres, synthetic fibres and combinations thereof.
- 20 14. A core material according to any of the preceding claims, having a compression resistance at 1 bar of at least 30 %, preferably at least 60 %, more preferably at least 70 %.
15. A laminate at least consisting of a core material according to any of the preceding claims, laminated with at least one fibrous fleece.
- 25 16. A laminate according to claim 15, wherein the laminate has a total thickness of 1 to 10 mm, preferably of 2 to 5 mm.
17. A laminate according to claim 15 or 16, wherein at least one fibrous fleece is selected from the group consisting of at least one type of fibre selected from the group consisting of glass fibres, carbon fibres and polyaramide fibres.

18. A laminate according to any of the claims 15-17 wherein the at least one fibrous fleece is glued or stitched to the core material.

19. A process for preparing a shaped article, said process comprising placing a core material according to any of the claims 1-14 optionally in
5 combination with one or more other non-woven fleeces, or a laminate according to any of the claims 15-18 in a closed mould, introducing a liquid resin into the mould and curing the resin to produce the article.

20. Process according to claim 19, wherein the resin is a polyester resin, a phenylester resin, an epoxy resin, a polyurethane resin, a melamine-
10 formaldehyde resin or a phenol resin.

21. A shaped article obtainable by a method according to any of the claims 19 or 20.

22. A shaped article, based upon a core material according to any of the claims 1-14 or a laminate according to any of the claims 15-17.

15 23. A shaped article according to claim 22, having a diffraction index as represented by its orange peel value of less than 30, preferably of less than 25, more preferably of 10-20.

24. Process for producing a core material according to any of the claims 1-14, said process comprising introducing a foamed or foam generating
20 material into a fibrous web using at least one binder material and setting a foam in the web by curing the binder material.

25. Process according to claim 24, wherein the foamed or foam generating material is introduced into the web by rotary screen printing.